**Peer-graded Assignment**

**Capstone Project - The Battle of Neighbourhoods**

**Introduction**

Lots of people are migrating to various states of Canada. People need to do a lot of research to select a good neighbourhood. The main factors they may consider will be affordable housing prices, reputed highly rated schools, weather conditions, ease of essential services like grocery shops, medical shops, hospitals, supermarket etc. Some may even have preferences for malls, theatres, likeminded people, commute facilities etc.

This project is aimed to help those people migrating to a new city, state, country or place for their work or to start a new fresh life, explore these different facilities around their neighbourhood and make smart decisions based on that. The neighbourhoods of Scarborough, Toronto is used as an example here which can be even extended to any other city or state.

**Problem Statement**

The major purpose of this project, is to suggest a better neighbourhood in a new city for the people who are migrating there. This project mainly explores the average housing prices, good schools and common venues.

The place we are analysing here is Scarborough, Toronto which is a popular destination for new immigrants in Canada to reside. As a result, it is one of the most diverse and multicultural areas in the Greater Toronto Area, being home to various religious groups and places of worship. Although immigration has become a hot topic over the past few years with more governments seeking more restrictions on immigrants and refugees, the general trend of immigration into Canada has been one of on the rise.

So in this project, I am assuming that I am part of a Data Science Team who will analyse and recommend the good location for the person who is going to migrate to this place i.e. the objective is to locate and recommend of Toronto will be best choice to start their living

**Libraries Which are Used to Develop the Project**

1. Pandas: For creating and manipulating data frames.
2. Folium: Python visualization library would be used to visualize the neighbourhoods cluster distribution of using interactive leaflet map.
3. Scikit Learn: For importing k-means clustering.
4. JSON: Library to handle JSON files.
5. XML: To separate data from presentation and XML stores data in plain text format.
6. Geocoder: To retrieve Location Data.
7. Beautiful Soup and Requests: To scrap and library to handle http requests.
8. Matplotlib: Python Plotting Module.

This project would even use Four-square API as its prime data gathering source as it has a database of millions of places, especially their places API which provides the ability to perform location search, location sharing and details about a business.

**Target Audience**

This project is mainly intended to companies who are helping people migrate for their living or start a business in Scarborough, Toronto. The approach used here can be replicated to do the analysis on any city in any country.